3: Fortes E-5 (1934-1937) 1949
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PLATE 5

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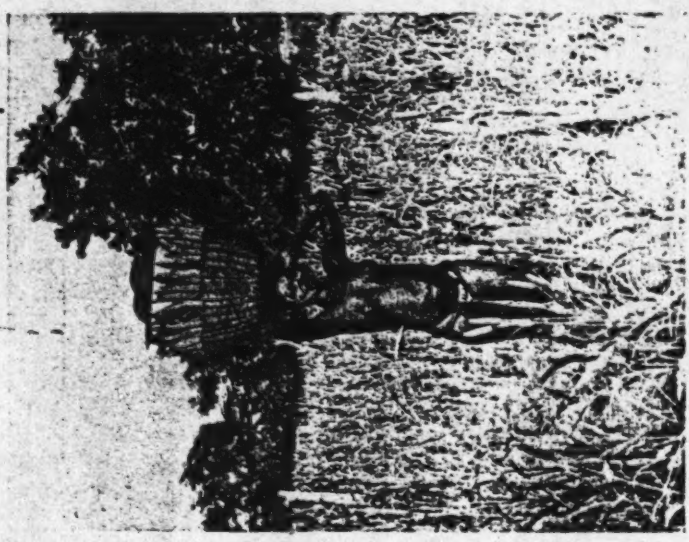

b. Homeward bound from a visit to her father's house, where she has received a gift of some millet and other foodstuffs

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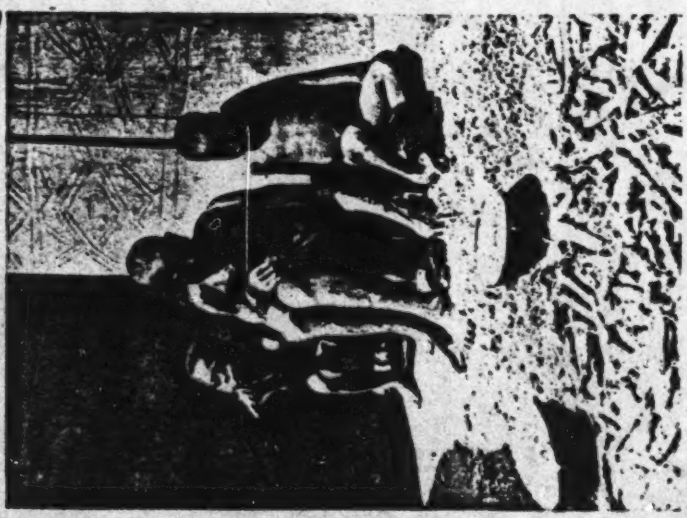

a. A senior wife (*poyakpeem*) in her *dondogo* sorting newly harvested millet. With her are one of her daughter's children and the small son of a co-wife

[facing p. 112]

221 262 A striking correlation emerges from the above synopsis of the cycle of food economy. It will be seen that domestic food-supplies are at their lowest at the time—recognized as such by the natives—of the most strenuous output of physical labour, i.e. in May–June, and highest when there is least agricultural work. In other words, it would seem that food consumption is inversely correlated with food requirements, if we may assume that more food is needed to sustain the arduous agricultural labour of the rainy season than the leisure months of the dry season. How this affects the working capacity of the natives must be left to the social biologist to determine; it is a type of problem beyond the competence of an ethnographer. The •251 261 Tallensi have both excellent receptacles and adequate techniques for storing all kinds of food. We have seen grain and ground-nuts produced from granaries or storage baskets (*kusɔk*) twelve months after they had been packed, and in perfect condition. Even root crops and legumes, which appear to be more susceptible to damp and weevils, can be stored for a year. Nor, in our estimation, are the Tallensi

443 to bring out more clearly the fluctuations in domestic supplies. The market is a fundamental economic institution in Tale society, but we have space here only for a cursory comment on its function in relation to our main theme. Every kind of raw foodstuff, from grain to wild fruits and many varieties of cooked food can be purchased in the market. A visit to the market shows at once what the state of the domestic larder is; high prices indicate empty granaries, low prices, plentiful domestic supplies. The cooked food offered in the market illustrates the seasonal variation in supplementary diet very well. As soon as Bambara beans or frafra potatoes are lifted they appear, both raw and cooked, in the market. The food most commonly sold in the market is porridge (*sayabo*), the staple cereal food; but other cereal and pulse confections can be bought there, many kinds being especially prepared for sale, and rarely, if ever, cooked for home consumption. Such are *maasa*—fried millet-cake, *gaw* and *kawoka*, both made of flour cow-pea. A number of women carry on a regular trade in these luxury foods and thus reap a steady income. Beer is always on sale in the Tale markets, manufactured and sold by a few regular women traders, all Nankansi as far as we know. Only in the markets have we seen intoxicated men; never at ritual gatherings. The market is also the main supplier of tobacco, which most mature men and many old women chew or smoke, but which only a minority are able to grow for themselves, and of kola nuts, imported from Ashanti by foreign traders, and universally chewed as a stimulant by men, women, and even older children. Curdled milk (*bighihir*), a luxury food, is generally obtained there, too. The market represents the point of contact between the basic subsistence economy of the natives and the money economy which exists side by side with it.

4: Fortes and Fortes E-5 (1934-1936) 1936
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improvident or reckless in the utilization of their supplies. The lavish expenditure of live stock and grain prescribed, according to Tale cultural values, for certain ritual and ceremonial occasions merely emphasizes their normal frugality. 'They rebuke you, saying, will you not listen? The time will come when you will wish for cow-peas and there won't be any. Don't you know that hunger is coming? Truly you behave like infants.' These were the words in which an adolescent boy described how the head of a household restrains his children when, at the time the cow-peas are harvested, they snatch handfuls to cook and eat. It is typical of the same attitude that a man should sometimes store part of his ground-nut crop with a friend or relative in order to remove from his household the temptation to fritter it away in unnecessary sporadic eating.

Why then do the Tallensi not preserve their major crop till the rainy season, which they know well enough to be the time of most exacting labour, and live sparingly during the leisure of the dry season? An explanation would require an analysis of the whole of Tale cultural and social life, a task we cannot pursue here. If the correlation observed above is also found with other African peoples, as is not unlikely, it would indicate that a purely physiological or biochemical approach to the study of a native food economy rests upon questionable assumptions. An instinct of self preservation, 'survival value', or a direct correspondence between their biochemical requirements and the system of food economy would presumably have been reflected in a more adequate seasonal organization of the latter. Culturally determined motives seem, however, to be as significant as physiological factors in this regard.[1]

CONVERSION OF THE RAW MATERIALS. We have seen how the raw materials were produced and otherwise brought into the compound by the joint efforts of man, woman, and child. We have studied the fluctuations in the food supply from season to season. We will now

[1] A neat illustration of how cultural and psychological factors affect the food values and economy of the natives is shown in the exceptional care they devote to their tobacco patches. The same care expended on their farms would go a long way towards raising the subsistence level; yet recurrent food shortages have apparently not brought this home to them.

4: Fortes and Fortes E-5 (1934-1936) 1936
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the time. From a series of menus which we collected over a period of two months (November–January), it would appear that ocro is the favourite soup, while *bet* (*hibiscus sabdariffa*) is the least liked. *Neri*-seed[1] soup is rarely cooked for ordinary consumption, but is prepared on a special occasion such as a visit of an in-law relation.

Though the number of different vegetables planted is few, the women are able to achieve a considerable range of variation by using every part of the plant and by combining them in different ways. Every woman has a well-stocked larder of dried vegetable-leaves and fruits which she keeps in pots (e.g. ocro) or onion-shaped receptacles made of dried guinea-corn leaves (*kiykarog*) and suspended from the rafters to keep them dry (e.g. *bet* or *naggena*).

The process of preparation is the same in the main for most soups, and is described in the Appendix. Vegetables and other ingredients are never washed or cleaned before use: Tale women are very casual in their cooking hygiene; the cooking-pots are left unwashed from one meal till the next and the soup dishes always have stale food adhering to them.[2]

Meat is a very important ingredient in the soup. It is most commonly consumed in this way, though it is sometimes eaten by itself by men after sacrifices. It is a great delicacy and men will often spend long hours at a ceremony in order to obtain a morsel of meat or a tiny piece of the viscera. Any scrap of meat or fat which falls to the ground is picked up and swallowed raw. But meat is not 'food', they say, as porridge is, it is *saleg*, i.e. gluttony. While a little of it is strengthening, too much causes diarrhoea.

The only meat directly killed for cooking is the guinea-fowl. The

[1] *Neri* (*cucumis melo*) when ripe is buried and covered with guinea-corn stalks and allowed to rot. The seeds are then extracted, dried, and stored for making soups.

[2] The chief reason would seem to be the scarcity of water at certain times of the year, and the labour involved in carrying it, as well as the ingrained indifference of the Tallensi to cleanliness. Yet they take great pleasure in polishing their calabashes at the water-holes to make them yellow and shiny, and treat the new calabashes in a special way to attain the gloss. We have seen women carrying gravel home with them when visiting a neighbouring settlement some 4 miles away because their own clayey soil was not satisfactory for cleaning calabashes. We could not obtain an adequate explanation of this attitude from the women themselves, beyond that 'they like it so'.

4: Fortes and Fortes E-5 (1934-1936) 1936
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initiative in this matter is never taken by the woman herself. If she has no meat she cooks without it, but the husband, tasting the soup, will observe that her meat is finished and will catch a guinea-fowl for her or give her money to buy one at the market. A woman may not catch one of her husband's guinea-fowls herself or she would be branded a thief, but she could catch one of her own, if she has any. This is the reason why she tells her husband 'So-and-so gave me a guinea-fowl and I had it killed to-day', if she slaughters one she received as a gift. A woman never kills or plucks a guinea-fowl herself because it is unbecoming. She will ask a young boy in the compound to do it for her. We have frequently observed women carrying home live guinea-fowls already plucked for them in the market by some man, so as to avoid delay in the cooking. The freshly killed guinea-fowl is hung up directly over the fireplace where it becomes gradually dried. When it is used the first day it is called *num-mahar*, i.e. fresh meat; after two or three days it is dry on the surface but still soft inside and is known as *num-gahar* or *num-ɔɔra*, i.e. smoked meat; after three days it is dry all through. It is now *num-kpee*, dried meat. There is no preference shown for meat at any particular stage; the Tallensi are an economical people and have a matter-of-fact attitude in this regard. Meat is added to the soup in very small quantities. Used fresh or smoked, it is added as a whole portion, e.g. the head, the neck, a wing, a leg or the breast. Dried meat is ground and stirred into the soup in the same way as the other seasonings. A medium sized guinea-fowl thus lasts a family of seven about a week. Dried meat can be kept any length of time, and if a piece of fresh meat is obtained in the meantime it is used up first. In such a case one guinea-fowl might last a housewife as much as a fortnight.

Beef or donkey-meat is much appreciated. We have seen a woman produce about two square inches of dried beef which was a year old. Such meat is carefully preserved in a pot or calabash among a woman's more valued possessions; but dried guinea-fowl is kept with her other soup ingredients in the kitchen.

Fish is used in the same way as meat, though less frequently, and mainly in dried form. This is due to the fact that it is seasonal and has generally to be purchased. But it is appreciated as much as meat.

Vegetables are the foundation of every soup; meat and fish make

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241 keep pace with the growth in intensity of conditions. Farming is regarded as a custom and not as a business, with the result that in crop production and in animal husbandry the maximum is left to Nature. It is custom based upon an unsettled past which underlies the economic system.

Diet.

262 264 The diet of the people is largely vegetarian; only after religious sacrifice, or upon a very special occasion, is the flesh of cattle, sheep, goats, donkeys or dogs, eaten, subject to certain taboos. Fowls are not eaten by women, or, in some sections, by first-born male children; they are therefore not generally found in a normal diet; guinea-fowls are eaten, however, by all who can afford them. The big meal of the day is consumed in the evening and consists of cereal flour, cowpeas, or Bambarra beans, prepared as a dough or porridge, over which soup made with or without meat, is poured. In the mornings a light meal is taken off anything left-over from the previous evening; similarly at mid-day. When working in the farms at the beginning of the season cereal flour is taken mixed with drinking water. The results of a study of the diet of the Tallensi—a tribe around Tongo in Zuarungu Area—in relation to domestic economy, has been dealt with very fully by Dr. M. and Mrs. S. L. Fortes (9).

Recurrent Food Shortage.

262 251 241 It is not surprising that with a precarious rainfall and almost complete dependence upon cereals, crop yields are very variable and recurrent food shortage is a common experience. Soil erosion, and a system of continuous cultivation with inadequate manuring, have reduced the bulk of farmed land to a basic minimum of fertility, except in the immediate vicinity of compounds. The food problem is further complicated by a natural improvidence of the people whereby all crops are consumed in the year they are produced. In good years a surplus of grain is used lavishly in performing religious customs; it is seldom stored against the possibility of a bad season. A rise in the market value of crops at planting time suggests that many people are so improvident as not even to save sufficient seed for planting.

Famine Foods.

222 261 A reduced supply of cultivated foods in a poor season is eked out by food from wild sources. There is scarcely a single tree in populated areas which has not some value in this respect; and the seed of an indigenous grass, "Gonongo" (Nankani) (Dactyloctenium aegyptium), is laboriously collected and used as grain.

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is used in preparing tobacco for chewing, and also, by percolation, "coom missom" (Nankani), literally "sour water", which is used in cooking cereal foods. The salts in the ash probably supply important minerals to the diet (11), but the process by which they are obtained, robs the soil of much of the manurial value in the residue of the early millet crop.

The leaves of cowpeas are picked by women throughout the growing season and used in making soup. Maize is harvested towards the end of July, followed by "neri". The fruits of neri are buried in the ground for about ten days to rot the pericarp; they are then dug up, washed by women in a stream, and the seeds are dried and stored in pots for future use. Early guinea corn is reaped at the end of August and in September, by which time late millet and the main guinea corn crop are coming into flower. At this season, women and children strip all the leaves and sepals from Hibiscus sabdariffa and, after careful drying, store them in pots for making soup during the dry season. The leaves of Hibiscus cannabinus are similarly treated, and the end of the branches, bearing fruits, are cut off and later the seeds are removed for soup making. The bast fibres of both Hibiscus sabdariffa and Hibiscus cannabinus are drawn after retting in streams for 10 to 12 days: they are made into rope of good quality; this work is generally performed by men. Women also draw the fibres of Hibiscus cannabinus, and scrub them white for making the "tails" they sometimes wear as alternative dress to leaves.

The main harvest season starts during the middle of September with groundnuts, and is carried on through October, and into early November, with guinea corn and late millet. During this period, from a peak in August, the rainfall decreases and the water-table falls; with the onset of the harmattan in November, the whole countryside dries rapidly. The groundnut plants are lifted with a hoe, and carried to the shade of a tree, where the nuts are picked off; the hay is carefully conserved as a dry season fodder. The day previous to reaping the late cereal, cowpeas are collected and carried to the compound; the leaves and stems are also conserved for fodder. The heads of late millet and guinea corn are cut off in the same way as those of early millet, and the stems are trampled to the ground. For about three weeks after harvesting, livestock are given open range in the farms and they feed readily upon the still succulent leaves of guinea corn and, to a less extent, millet. But as soon as the material is dry enough, fire is put through the farm to burn off the trash from the resistant cereal stalks, leaving them slightly charred, and clean: in this way much valuable dry season fodder is destroyed. The stalks are chopped from their

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241 In order to demonstrate the annual variation in yields more clearly and the performance of individual crops, the yield of each of the more important crops has been calculated from Table 6, Appendix II, irrespective of the mixture in which it was grown; these yields are given in Appendix II, Table 7. Provided that the proportions of crops in the mixtures were fairly constant from year to year, the figures have a comparative value. From Appendix II, Table 7, the district means obtained in each year have been calculated to the nearest 5 lbs. per acre, and these are set out below in Table 4:—

Table 4.—Summary of mean yields of each of the more important crops, irrespective of mixture, for the years 1932, 1934, 1935 and 1936. Figures in lbs. per acre.

(From Appendix II, Table 7.)

Crop		1932	1934	1935	1936	Summary for all years
Early millet ...	Unmanured	355	230	365	300	270
	Manured	525	385	605	505	505
Late millet ...	Unmanured	350	195	175	255	235
	Manured	430	205	60	220	225
Guinea corn ...	Unmanured	395	230	320	495	325
	Manured	530	400	415	680	485
Groundnuts ...	Unmanured	490	630	725	685	595

The mean yields for 1936 given in the above table are lower than the means for Zuarungu and Navrongo since they include those from Zebilla in Kusasi Area. Zebilla suffered badly from a shortage of rain early in the season, which depressed the yield of the early crops; the guinea corn recovered well, however.

Methods of Storing Crops.

251 343 Cereals in bulk are generally stored unthreshed, in conical shaped granaries; the day's allowance is given to the women each morning by the head of the compound, and threshed as required. These granaries ("bari", Nankani) are made of "swish" proofed with cowdung and an infusion of the empty pods of Parkia filicoidea ("aam", Nankani); they are built inside the compound in Navrongo and Zuarungu Areas, and generally outside the door of the compound in Kusasi Area. In size they vary from 4′ to 6′ in diameter at the base, and from 6′ to 10′ high. A diagram of a section through a granary is given in Muir and Williams' paper (4).

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(4). Small quantities of seed and soup ingredients are stored in earthenware pots and calabashes of different shapes and sizes, which can be sealed with mud and cowdung. Ashes are mixed with cowpeas to discourage attacks from weevils. Groundnuts are generally stored in big baskets, plastered on the outside with mud and cowdung.

ANIMAL HUSBANDRY.

The importance of livestock in maintaining a system of fixed cultivation, under the conditions described, is patent. Furthermore the importation from French territory of large quantities of cattle, sheep, goats, and fowls, is a good indication of the size of the market for meat in Ashanti and the Colony; there is no reason why a greater proportion of this market should not be satisfied from local sources than is at present supplied, with benefit to the local farmer. In recognition of this, Government has pursued a policy of general immunisation against cattle plague, which is now practically complete. As a result, the cattle in North Mamprusi are shown to be increasing very satisfactorily (12) since the initial immunisation in 1931-32. From a census taken in 1936 they were found to number over 64,000 head. Thus over one-third of the cattle in the Northern Territories (64,293 head out of 160,000) are being maintained upon less than one-tenth of its area (3,559 sq. miles out of 41,940 sq. miles). The growth of the cattle population, taken into account with the numbers of other livestock, and the shortage of water and of human food in some years, gives some idea of the magnitude of the animal husbandry problems which lie ahead.

Uneconomic Position of Livestock.

Livestock occupy a peculiar position in local farm economy. Although they are sold in order to get money when necessary, nevertheless, they are not reared for economic purposes, but primarily for religious sacrifice and the payment of marriage dowries. In North Mamprusi, wealth and position are associated, not with money, but with the number of wives and children, and livestock, that a man has. Four cows would enable a man to acquire another wife, but ten pounds would not do so (by custom). As with crop husbandry, so with animal husbandry, economic conditions are changing more rapidly than custom is adjusting itself; unless the adjustment receives careful assistance there is a grave risk of loss of soil fertility and human stamina, on the one hand, and the constitution of the livestock upon the other.

Numbers of Livestock Owned per Compound.

The numbers of livestock owned by recorded compounds are set out in Table 8, of Appendix II, in detail. From this table text Table 5 below has been extracted.

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Section III.—DISCUSSION OF FINDINGS IN PARTICULAR RELATION TO FOOD SHORTAGE.

262 The remarks made in this section apply more particularly to the Zuarungu and Navrongo Areas than to Kusasi, because, generally speaking, the Kusasis seldom suffer from food shortage and, indeed, they frequently have a surplus for disposal. For this reason the agricultural problem is more acute in the Zuarungu and Navrongo Areas; an adequate and reliable food supply is a prerequisite of all development.

Nature of Food Shortage.

262 251 Enquiry showed that, as far back as memory goes, a shortage of cultivated foods is experienced in about two years out of every five; the problem, therefore, is by no means a new one. Hungry years follow seasons of poor crops, since practically nothing is stored for more than eight months, *i.e.*, from the time of the main harvest in October and November, until early millet is harvested in the following July. A surplus in a good season is not stored against the possibility of a bad one, but is used lavishly in the performance of religious customs, or it is sold or bartered for livestock. Livestock may be regarded as a kind of bank; the sale of stock is the usual means of obtaining money. In years of food shortage, livestock are sold in order to buy grain from Kusasi, Mamprusi, or Dagomba; and because a number of people are selling at the same time, livestock values fall very considerably in these years.

262 222 Although bad seasons result in food shortage for many, they do not necessarily mean starvation, for there are a number of wild sources of food which can be used to eke out a reduced supply of cultivated foods. The most common causes of poor crops are abnormal rains and the ravages of locusts. In good seasons, such as 1932 and 1936, very few people suffer from a shortage: the area of land cultivated is adequate, presumably, and the system of farming is successful. But even in bad seasons it is not everyone who is short. Thus out of the twenty-nine recorded compounds in the Zuarungu Area, ten had sufficient home-grown food remaining from the bad harvest of 1931 (due to shortage of rain after September) until early millet was reaped in 1932. The other nineteen compounds sold livestock and bought grain, and gathered "wild" food. A comparison of statistics from these compounds is given in Table 6 below:—